

WHAT IS CLAIMED IS:

1. Heart valve prosthesis for placement in a valve of a patient's heart, said valve prosthesis comprising a surgical implant including a curved member and a skirt, said curved member having first and second ends and being adapted to form a partial ring along a portion of one of the valve annulae in the patient's heart, and said skirt extending along said curved member and depending therefrom.
2. The prosthesis of claim 1 wherein said curved member is flexible.
3. The prosthesis of claim 1 wherein said curved member is rigid.
4. The prosthesis of claim 1 further including a plurality of struts extending radially inward from said curved member.
5. The prosthesis of claim 4 wherein said struts are integrally formed with said curved member.
6. The prosthesis of claim 4 wherein said skirt has an inner perimeter and said struts terminate before said inner perimeter.
7. The prosthesis of claim 1 wherein said skirt comprises prosthetic tissue.
8. The prosthesis of claim 1 wherein said skirt comprises ePTFE.
9. The prosthesis of claim 1 further including fibrous mesh surrounding said curved member.
10. Heart valve prosthesis for placement in a valve of a patient's heart, said valve prosthesis comprising a surgical implant including a closed ring shaped member and a skirt, said ring shaped member being adapted to form a ring along one of the valve

annulae in the patient's heart, and said skirt extending along at least a portion of said ring shaped member and depending therefrom.

11. The prosthesis of claim 10 wherein said curved member is flexible.
12. The prosthesis of claim 10 wherein said curved member is rigid.
13. The prosthesis of claim 10 further including a plurality of struts extending radially inward from said ring shaped member.
14. The prosthesis of claim 13 wherein said struts are integrally formed with said ring shaped member.
15. The prosthesis of claim 13 wherein said skirt has an inner perimeter and said struts terminate before said inner perimeter.
16. The prosthesis of claim 10 wherein said skirt comprises prosthetic tissue.
17. The prosthesis of claim 10 wherein said skirt comprises ePTFE.
18. The prosthesis of claim 10 further including fibrous mesh surrounding said ring shaped member.
19. Heart valve delivery apparatus for placing heart valve prosthesis in a patient's heart, said apparatus comprising:
 - a delivery device comprising a plurality of tube pairs arranged to support said heart valve prosthesis; and
 - a plurality of self-closing clips, each clip having an open configuration and a closed configuration and first and second piercing ends, each clip being ejectably mounted to one of said tube pairs with a first portion of the clip slidably positioned in one tube of the tube pair and a second portion slidably positioned in the other tube of the tube pair so that the first clip piercing end can be ejected from said one tube of the tube pair and said second piercing end can be ejected from said other tube of the tube pair.

20. The apparatus of claim 19 further including a plunger, each of said clips being coupled to said plunger.

21. The apparatus of claim 20 wherein said clips are laterally spaced from one another and arranged for parallel ejection.

22. Heart valve repair apparatus for placing heart valve prosthesis in a patient's heart, said apparatus comprising:

heart valve prosthesis comprising a prosthetic valve leaflet and a member supporting said leaflet; and

delivery apparatus comprising a support for said valve prosthesis and a plurality of clips ejectably mounted to said delivery apparatus support, each clip having two piercing tips extending into said member supporting said leaflet.

23. The heart valve repair apparatus of claim 22 further including a plunger, each of said clips being coupled to said plunger.

24. The heart valve repair apparatus of claim 23 wherein said clips are laterally spaced from one another and arranged for parallel ejection.

25. The heart valve repair apparatus of claim 22 wherein said clips have an open configuration and a closed loop shaped configuration, said clips being in said open configuration.

26. The heart valve repair apparatus of claim 22 further including a plurality of tube pairs, each clip having a first portion slidably positioned in one tube of a tube pair and a second portion slidably positioned in the other tube of said tube pair.

27. A method for delivering heart valve prosthesis comprising:
providing heart valve prosthesis having a curved member and a skirt extending therefrom and a plurality of self-closing clips, each having two pointed ends, and an open configuration and a closed configuration;

securing the curved member to said plurality of self-closing clips with the two pointed ends of each clip penetrated into the curved member;
placing the curved member on the mitral valve annulus of a patient's heart;
ejecting all of the clips simultaneously to penetrate into the mitral valve annulus and move toward their closed configuration to secure the heart valve prosthesis to the valve annulus.

28. The method of claim 27 wherein the heart valve prosthesis has a plurality of struts extending radially inward from said curved member.

29. The method of claim 27 wherein said curved member forms a partial ring which is placed along the posterior portion of the mitral valve annulus with the skirt extending over the mitral valve posterior leaflet.

30. The method of claim 27 wherein said curved member forms a closed ring which is arranged so that the skirt extends over the mitral valve posterior leaflet.

31. The method of claim 27 wherein said curved member is flexible.

32. The method of claim 27 wherein said curved member is rigid.